

DETAILED ACTION

1. Pursuant to 37 C.F.R. 1.981 prosecution on this application is reopened.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,2,13,14,18,19 are rejected under 35 U.S.C. 102(b) as being anticipated by the US Publication 2002/0180266 to Hara et al.

Regarding claims 1,13 and 18 as broadly claimed Hara et al. '266 discloses a method for controlling regenerative braking in a vehicle having a regenerative braking system, which includes:

determining a first vehicle condition, such as vehicle deceleration (see paragraph 0070) when the vehicle is braking; determining a first predetermined value, such as vehicle the wheel slip amounts SL_a, SL_b threshold values, calculated by the brake control device 52 (see paragraphs 0034, 0035) corresponding to the first vehicle condition;

determining a second vehicle condition, such as the brake slip amounts SL_i and/or the vehicle speed (see paragraph 0034); and

reducing regenerative braking torque to zero beginning when the second vehicle condition reaches the first predetermined value. See the abstract and paragraph 0065.

Regarding claims 2,14,19, these limitations are met since deceleration and wheel slip are functions of speed. Further, the object of Hara is to determine when the vehicle is about to enter ABS control so that the regenerative brake torque is not rapidly reduced to zero (paragraphs 0007 -0008). Therefore, the vehicle speed, vehicle deceleration or wheel slip amounts can be used to determine this condition. When the vehicle fully enters ABS control the regenerative force (on at least one set of the front or rear wheels) is reduced to zero (see figures 10 and 11 and paragraphs 0077-0078).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 3,15,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al. '266..

Regarding claims 3,15,20 although Hara et al. uses brake slip amounts to detect the start of ABS it would have been obvious to have used actual and target vehicle speed comparisons as a substitute (or alternate equivalent method) to using the brake/wheel slip amounts since vehicle speed must be calculated to arrive at these values (see paragraph 0034). Although not applied see the reference to Brown '013 col. 6 lines 20-25.

Allowable Subject Matter

7. Claims 4-12,16,17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Schwartz whose telephone number is 571-272-7123. The examiner can normally be reached on M-F 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rob Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David L Talbott/
Director TC 3600

/Christopher P. Schwartz/
Primary Examiner, Art Unit 3657

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